

# 10.6 Factoring

$$ax^2 + bx + c$$

FACTORING:  $ax^2 + bx + c$

**FACTOR.**

1.  $3x^2 + 2x - 8$

$3 \cdot (-8) = -24$

So, we need two numbers

$$\underline{6} \cdot \underline{-4} = -24 \text{ AND } \underline{6} + \underline{-4} = 2$$

$$3x(x+2) \quad | \quad 3x^2 + 6x - 4x - 8 \quad | \quad -4(x+2)$$

$$3x(x+2) - 4(x+2)$$

$$(3x - 4)(x + 2)$$

$$2. \quad 3x^2 + 17x + 10$$

$$\underline{15} \cdot \underline{2} = 30 \quad \boxed{\underline{15} + \underline{2}} = 17$$

$$| 3x^2 + 15x | + 2x + 10 |$$

$$3x(x+5) + 2(x+5)$$

$$(3x+2)(x+5)$$

$$3. 2x^2 - 11x + 15$$

$$\underline{-5} \cdot \underline{-6} = 30 \quad \underline{-5} + \underline{-6} = -11$$

$$\begin{aligned} & | 2x^2 - 5x || -6x + 15 | \\ & x(2x-5) + -3(2x-5) \\ & (x-3)(2x-5) \end{aligned}$$

$$4. \ 3x^2 + 2x - 8$$

$$5. \ 2x^2 - x - 3$$

